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09/896,818	06/29/2001	Ryoichi Nozawa	9319G-000245	6994

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EXAMINER

ISAAC, STANETTA D

ART UNIT

PAPER NUMBER

2812

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/896,818

Applicant(s)

NOZAWA ET AL.

Examiner

Stanetta D. Isaac

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 30-33 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-18 and 20-29 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse is acknowledged. The traversal is on the ground(s) that the applicant argues that both groups of claim are drawn to subject matter which are so related to each other that an undue burden would not be placed upon the examiner by maintaining both groups of claims in a single application. This is not found persuasive because Group I (drawn to a method) and Group II (drawn to a device) are patentability distinct inventions.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The disclosure is objected to because of the following informalities: on page 22 line **power supply line** and **scanning line** are both under the reference number 32. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 6, 9-16, 20, 22-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. US Patent 5,545,291.

5. Smith discloses the semiconductor method substantially as claimed. See **Figs. 1-17** where Smith teaches a manufacturing method for an organic EL display which is provided with

Art Unit: 2812

an organic EL element and a semiconductor element which drives the organic EL element on a display base board,

the manufacturing method for an organic EL display comprising the step of disposing a unit block 19 having said semiconductor element at a predetermined position of a display base board 50, 10.

6. Pertaining to claim 2, Smith teaches manufacturing method for an organic EL display according to claim 1 the unit block being formed such that said plural semiconductor elements are formed on a single crystal semiconductor base board in parallel, and this base board is divided.
7. Pertaining to claim 3, Smith teaches manufacturing method for an organic EL display according to claim 1 a concavity having a shape corresponding to the shape of the unit block being formed at a predetermined position of base board of display, the unit block being disposed at a predetermined position of the display base board by fitting unit block into this concavity in a liquid.
8. Pertaining claim 6, Smith teaches manufacturing method for an organic EL display according to claim 1 the unit block being introduced to be disposed at a predetermined position of the display base board by Coulomb attractive force.
9. Pertaining to claim 9, Smith teaches manufacturing method for an organic EL display according to claim 1 driving method being active-matrix method.
10. Pertaining to claim 10, Smith teaches manufacturing method for an organic EL display according to claim 9 scanning line, signal line, and power supply line terminals for connecting wiring inside the unit block of these wirings being formed on the display base board in advance,

Art Unit: 2812

after terminals for connecting wirings on the display base board being formed at the position which contacts these terminals at the time of disposing on the display base board in the unit block, the unit block being disposed at a predetermined position on the display base board.

11. Pertaining to claim 11, Smith teaches manufacturing method for an organic EL display according to claim 9 the unit block having plural semiconductor elements for driving plural neighboring organic EL elements.

12. Pertaining to claim 12, Smith teaches manufacturing method for an organic EL display according to claim 11 plural elements for each organic EL element being disposed such that the planar shape of the unit block is polygonal and is rotationally symmetrical centered at the center of the polygon.

13. Pertaining to claim 13, Smith teaches manufacturing method for an organic EL display according to claim 11 the planar shape of the unit block being rectangular, and plural terminals for each organic EL element being disposed so as to be axisymmetric with respect to center lines which are parallel with the longer side of the rectangle and the center line which is parallel to the shorter side of the rectangle.

14. Pertaining to claim 14, Smith teaches manufacturing method for an organic EL display according to claim 11 planar shape of the unit block being polygonal, and plural terminals for each organic EL element being disposed along each diagonal line of the polygon, and the position of the terminals on each of the diagonal lines being such that the same terminal is on the same previous position after the rotation.

15. Pertaining to claim 15, Smith teaches manufacturing method for an organic EL display according to claim 12 said polygon being an equilateral polygon.

16. Pertaining to claim 16, Smith teaches manufacturing method for an organic EL display according to claim 14 said polygon being an equilateral polygon.

17. Pertaining to claim 20, Smith teaches a disposing method for a semiconductor element in which a unit block having a semiconductor element is disposed at a predetermined position on a base board, disposing method for a semiconductor element characterized in that the unit block is introduced at a predetermined position on the base board by Coulomb attractive force.

18. Pertaining to claim 22, Smith teaches a manufacturing method for a semiconductor device having a process in which a unit block having semiconductor element is disposed at a predetermined position on a base board, the manufacturing method for a semiconductor device the wiring and terminals for connecting with wiring inside the unit block of this wiring being formed on a base board in advance, in the unit block, at a position which contacts terminals on the base board at the time of disposing on the base board, after the terminal for connecting with the wiring on the base board being formed in advance in the unit block, and the unit block being disposed at a predetermined position on the base board.

19. Pertaining to claim 23, Smith teaches a manufacturing method for a semiconductor device having process in which a unit block having plural semiconductor elements is disposed at a predetermined position of the base board, the manufacturing method for a semiconductor device which disposes plural terminals for each semiconductor element such that the planar shape: of the unit block is polygonal, and the rotation symmetricalness is centered by the center of this polygon.

20. Pertaining to claim 24, Smith teaches a manufacturing method for a semiconductor device having a process in which a unit block having plural semiconductor elements is disposed

Art Unit: 2812

at a predetermined position on a base board, the manufacturing method for a semiconductor device in which plural terminals for each semiconductor element are disposed such that plan view of the unit block is made rectangular, and plural terminals for each organic EL elements are disposed so as to be axisymmetric relative to both center lines which are parallel with the longer side of the rectangle and center line which is parallel to the shorter side of the rectangle.

21. Pertaining to claim 25, Smith teaches a manufacturing method for a semiconductor device having a process in which a unit block having plural semiconductor elements is disposed at a predetermined position on a base board, the manufacturing method for a semiconductor device the plan view of unit block being polygonal, and plural terminals for each semiconductor element being disposed along each diagonal line of this polygon, and the position of the terminals on each diagonal line being such that the same terminal is on the same previous position after the rotation.

22. Pertaining to claim 26, Smith teaches a manufacturing method for an organic EL display according to claim 23 said polygon being an equilateral polygon.

23. Pertaining to claim 27, Smith teaches a manufacturing method for an organic EL display according to claim 25 said polygon being an equilateral polygon.

24. Pertaining to claim 28, Smith teaches a manufacturing method for an active-matrix type organic EL display a light emitting layer which is inserted among at least two pieces of electrode per pixel and said light emitting layer being driven by a semiconductor element, the manufacturing method for an active-matrix type organic EL display characterized in that the semiconductor element is formed on a base board, said semiconductor element is detached from

Art Unit: 2812

the base board so as to be divided per unit blocks, said unit blocks of said semiconductor element is disposed on other base board.

25. - Pertaining to claim 29, Smith teaches a manufacturing method for an electro-optic device which is provided with an electro-optic element and a semiconductor element which drives this electro-optic element on a display base board, the manufacturing method for electro-optic device comprising a process which disposes a unit block having said semiconductor element at a predetermined position of the display base board.

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claims 7, 8, 17, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. US Patent 5,545,291 in view of Jacobsen et al. US Patent 6,468,638.

28. Pertaining to claim 7, Smith fails manufacturing method for an organic EL display according to claim 1 characterized in disposing materials for an organic EL element corresponding to the position of a pixel on display base board by an ink jet method.

29. Pertaining to claim 8, Smith fails manufacturing method for an organic EL display according to claim 1 characterized in forming wiring which is formed on display base board by an ink jet method.

30. Pertaining to claim 17, Smith fails manufacturing method for an organic EL display according to claim 11 plural groups of organic EL element made of 3 pieces of neighboring

Art Unit: 2812

organic EL elements such as red color light emitting, blue color light emitting, green color light emitting being disposed on display base board, unit block having semiconductor element for driving 3 pieces of organic EL elements being disposed at the position which is center of 3 pieces of organic EL element per each group.

31. Pertaining to claim 18, Smith fails manufacturing method for an organic EL display according to claim 11 plural groups of organic EL element made of each 6 pieces of neighboring organic EL elements such as 2 pieces of red color light emitting, 2 pieces of blue color light emitting, 2 pieces of green color light emitting being disposed on display base board, unit block having semiconductor element for driving 6 pieces of organic EL elements being disposed at the position which is center of 6 pieces of organic EL element per each group.

32. However, See **Figs. 1a-20** where Jacobsen teaches manufacturing method for an organic EL display according to claim 1 characterized in disposing materials for an organic EL element corresponding to the position of a pixel on display base board by an ink jet method.

33. Pertaining to claim 8, manufacturing method for an organic EL display according to claim 1 characterized in forming wiring which is formed on display base board by an ink jet method.

34. Pertaining to claim 17, manufacturing method for an organic EL display according to claim 11 plural groups of organic EL element made of 3 pieces of neighboring organic EL elements such as red color light emitting, blue color light emitting, green color light emitting being disposed on display base board, unit block having semiconductor element for driving 3 pieces of organic EL elements being disposed at the position which is center of 3 pieces of organic EL element per each group.

35. Pertaining to claim 18, manufacturing method for an organic EL display according to claim 11 plural groups of organic EL element made of each 6 pieces of neighboring organic EL elements such as 2 pieces of red color light emitting, 2 pieces of blue color light emitting, 2 pieces of green color light emitting being disposed on display base board, unit block having semiconductor element for driving 6 pieces of organic EL elements being disposed at the position which is center of 6 pieces of organic EL element per each group.

In view of Jacobsen it would have been obvious to one of ordinary skill in the art to incorporate Jacobsen into Smith semiconductor method because the method used is called Fluidic Self Assembly (FSA) where process involves functional blocks that are deposited into substrate.
(See col. 2 lines 1-35; col. 5 lines 10-60)

Allowable Subject Matter

36. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

37. Claim 19 is allowed.

38. The following is an examiner's statement of reasons for allowance: Applicant independent claim 19 is allowed over the reference of record because none teach or render obvious a disposing method for a semiconductor element in which a unit block having a semiconductor element is disposed at a predetermined position on a base board where the disposing method for a semiconductor element characterized in that by arranging a hole which penetrates in the thickness direction through a display base board at a predetermined position of the display base board.

Art Unit: 2812

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanetta D. Isaac whose telephone number is 703-308-5871. The examiner can normally be reached on Monday-Friday 7:30am -5:30pm.

40. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Nebling can be reached on 703-308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-3432 for After Final communications.

41. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Stanetta Isaac
Patent Examiner
June 12, 2003


John F. Niebling
Supervisory Patent Examiner
Technology Center 2800